Cloud Manager

Cloud Manager 3.7

NetApp
March 25, 2024

This PDF was generated from https://docs.netapp.com/us-en/occm37/reference_new_occm.html on March 25, 2024. Always check docs.netapp.com for the latest.

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Cloud Manager

What's new in Cloud Manager 3.7

Cloud Manager typically introduces a new release every month to bring you new features, enhancements, and bug fixes.

Looking for a previous release?
What's new in 3.6
What's new in 3.5
What's new in 3.4

Cloud Manager 3.7.5 update (16 Dec 2019)

This update includes the following enhancements:

- Cloud Volumes ONTAP 9.7
- Cloud Compliance for Cloud Volumes ONTAP

Cloud Volumes ONTAP 9.7

Cloud Volumes ONTAP 9.7 is now available in AWS, Azure, and Google Cloud Platform.

See what's new in Cloud Volumes ONTAP 9.7.

Cloud Compliance for Cloud Volumes ONTAP

Cloud Compliance is a data privacy and compliance service for Cloud Volumes ONTAP in AWS and Azure. Using Artificial Intelligence (AI) driven technology, Cloud Compliance helps organizations understand data context and identify sensitive data across Cloud Volumes ONTAP systems.

Cloud Compliance is currently available as a Controlled Availability release.

Learn more about Cloud Compliance.

Cloud Manager 3.7.5 (3 Dec 2019)

Cloud Manager 3.7.5 includes the following enhancements.

- High write speed for Cloud Volumes ONTAP in GCP
- On-prem ONTAP clusters as persistent storage for Kubernetes
- Latest Trident version for Kubernetes
- Support for Azure general-purpose v2 storage accounts
- Prefixes in Azure storage account names using APIs

High write speed for Cloud Volumes ONTAP in GCP

You can now enable high write speed on new and existing Cloud Volumes ONTAP systems in Google Cloud Platform. High write speed is a good choice if fast write performance is required for your workload.

- Learn how to choose a write speed
- Learn how to change write speed on existing systems

On-prem ONTAP clusters as persistent storage for Kubernetes

Cloud Manager now enables you to use on-premises ONTAP clusters as persistent storage for containers. Similar to Cloud Volumes ONTAP, Cloud Manager automates the deployment of NetApp Trident and the connects ONTAP to Kubernetes clusters.

After adding a Kubernetes cluster to Cloud Manager, you can connect it to your on-premises ONTAP clusters from the Working Environments page:

Learn how to get started.

Latest Trident version for Kubernetes

Cloud Manager now installs a more recent version of Trident (version 19.07.1) when you connect a working environment to a Kubernetes cluster.

Support for Azure general-purpose v2 storage accounts

When you deploy new Cloud Volumes ONTAP systems in Azure, the storage accounts that Cloud Manager creates for diagnostics and data tiering are now general-purpose v2 storage accounts.

Prefixes in Azure storage account names using APIs

You can now add a prefix to the names of the Azure storage accounts that Cloud Manager creates for Cloud Volumes ONTAP. Just use the *storageAccountPrefix* parameter when you deploy a new Cloud Volumes ONTAP system in Azure.

See the API Developer Guide for more details about using APIs.

Cloud Manager 3.7.4 (6 Oct 2019)

Cloud Manager 3.7.4 includes the following enhancements.

- Support for Azure NetApp Files
- Cloud Volumes ONTAP for GCP enhancements
- Backup to S3 enhancement
- Encryption of boot and root disks in AWS
- Support for the AWS Bahrain region
- Support for the Azure UAE North region

Support for Azure NetApp Files

You can now view and create NFS volumes for Azure NetApp Files directly from Cloud Manager. This enhancement continues our goal to help you manage your cloud storage from a single interface.

Learn how to get started.

This feature requires new permissions as shown in the latest Cloud Manager policy for Azure.

```
"Microsoft.NetApp/netAppAccounts/read",
"Microsoft.NetApp/netAppAccounts/capacityPools/read",
"Microsoft.NetApp/netAppAccounts/capacityPools/volumes/write",
"Microsoft.NetApp/netAppAccounts/capacityPools/volumes/read",
"Microsoft.NetApp/netAppAccounts/capacityPools/volumes/delete"
```

Cloud Volumes ONTAP for GCP enhancements

Cloud Manager 3.7.4 enables the following enhancements to Cloud Volumes ONTAP for Google Cloud Platform:

Pay-as-you-go subscriptions in the GCP Marketplace

You can now pay for Cloud Volumes ONTAP as you go by subscribing to Cloud Volumes ONTAP in the Google Cloud Platform Marketplace.

Google Cloud Platform Marketplace: Cloud Manager for Cloud Volumes ONTAP

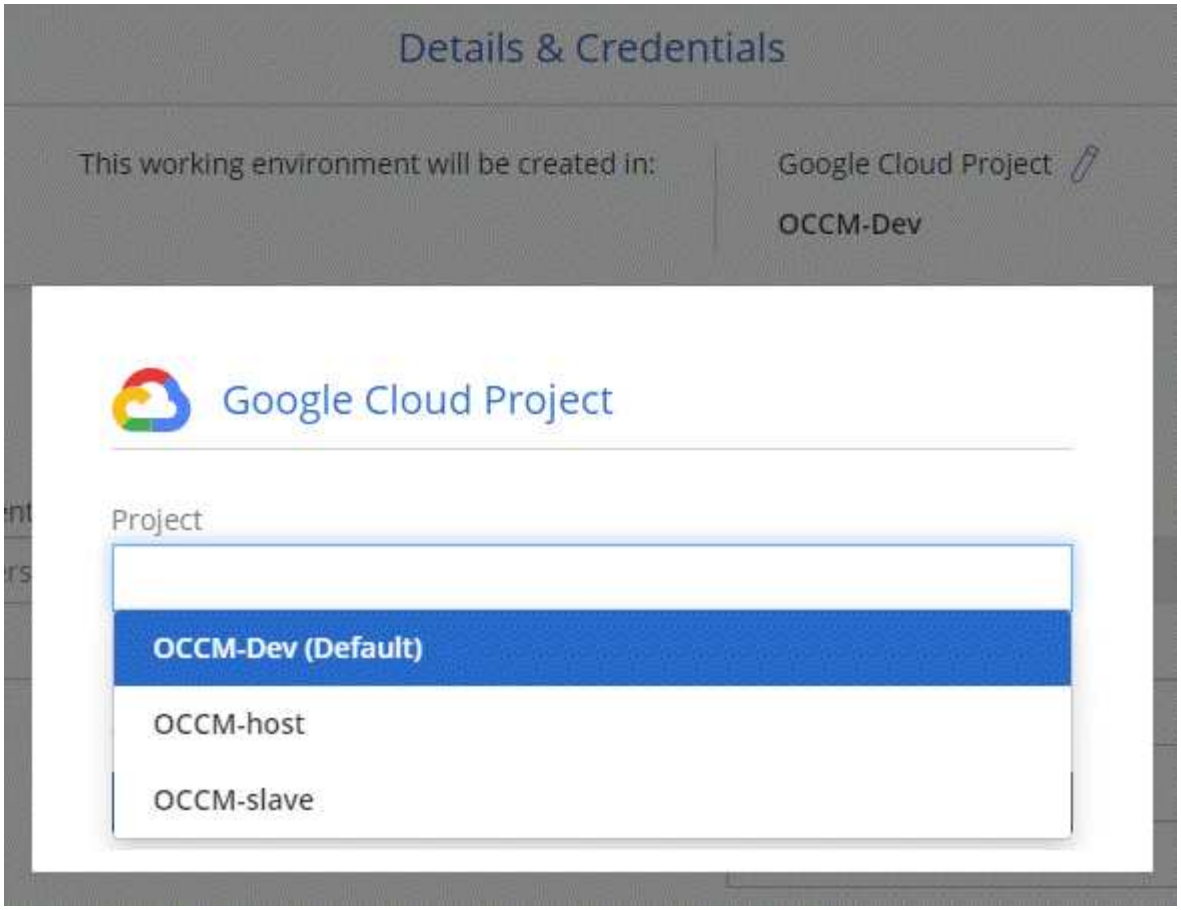
Shared VPC

Cloud Manager and Cloud Volumes ONTAP are now supported in a Google Cloud Platform shared VPC.

Shared VPC enables you to configure and centrally manage virtual networks across multiple projects. You can set up Shared VPC networks in the *host project* and deploy the Cloud Manager and Cloud Volumes ONTAP virtual machine instances in a *service project*. Google Cloud documentation: Shared VPC overview.

Multiple Google Cloud projects

Cloud Volumes ONTAP no longer needs to be in the same project as Cloud Manager. Add the Cloud Manager service account and role to additional projects and then you can choose from those projects you deploy Cloud Volumes ONTAP.



For more details about setting up the Cloud Manager service account, see step 4b on this page.

Customer-managed encryption keys when using Cloud Manager APIs

While Google Cloud Storage always encrypts your data before it's written to disk, you can use Cloud Manager APIs to create a new Cloud Volumes ONTAP system that uses *customer-managed encryption keys*. These are keys that you generate and manage in GCP using the Cloud Key Management Service.

Refer to the API Developer Guide for details about using the "GcpEncryption" parameters.

This feature requires new permissions as shown in the latest Cloud Manager policy for GCP:

```
- cloudkms.cryptoKeyVersions.useToEncrypt
- cloudkms.cryptoKeys.get
- cloudkms.cryptoKeys.list
- cloudkms.keyRings.list
```

Backup to S3 enhancement

You can now delete the backups for existing volumes. Previously, you could only delete the backups for volumes that had been deleted.

Learn more about Backup to S3.

Encryption of boot and root disks in AWS

When you enable data encryption using the AWS Key Management Service (KMS), the boot and root disks for Cloud Volumes ONTAP are now encrypted, as well. This includes the boot disk for the mediator instance in an HA pair. The disks are encrypted using the CMK that you select when you create the working environment.

> Boot and root disks are always encrypted in Azure and Google Cloud Platform because encryption is enabled by default in those cloud providers.

Support for the AWS Bahrain region

Cloud Manager and Cloud Volumes ONTAP are now supported in the AWS Middle East (Bahrain) region.

Support for the Azure UAE North region

Cloud Manager and Cloud Volumes ONTAP are now supported in the Azure UAE North region.

View all supported regions.

Cloud Manager 3.7.3 update (15 Sept 2019)

Cloud Manager now enables you to back up data from Cloud Volumes ONTAP to Amazon S3.

Backup to S3

Backup to S3 is an add-on service for Cloud Volumes ONTAP that delivers fully-managed backup and restore capabilities for protection, and long-term archive of your cloud data. Backups are stored in S3 object storage, independent of volume Snapshot copies used for near-term recovery or cloning.

Learn how to get started.

This feature requires an update to the Cloud Manager policy. The following VPC endpoint permissions are now required:

```
"ec2:DescribeVpcEndpoints",
"ec2:CreateVpcEndpoint",
"ec2:ModifyVpcEndpoint",
"ec2:DeleteVpcEndpoints"
```

Cloud Manager 3.7.3 (11 Sept 2019)

Cloud Manager 3.7.3 includes the following enhancements.

- Discovery and management of Cloud Volumes Service for AWS
- New subscription required in the AWS Marketplace
- Support for AWS GovCloud (US-East)

Discovery and management of Cloud Volumes Service for AWS

Cloud Manager now enables you to discover the cloud volumes in your Cloud Volumes Service for AWS subscription. After discovery, you can add additional cloud volumes directly from Cloud Manager. This

enhancement provides a single pane of glass from which you can manage your NetApp cloud storage.

Learn how to get started.

New subscription required in the AWS Marketplace

A new subscription is available in the AWS Marketplace. This one-time subscription is required to deploy Cloud Volumes ONTAP 9.6 PAYGO (except for your 30-day free trial system). The subscription also enables us to offer add-on features for Cloud Volumes ONTAP PAYGO and BYOL. You'll be charged from this subscription for every Cloud Volumes ONTAP PAYGO system that you create and each add-on feature that you enable.

Starting with version 9.6, this new subscription method replaces the two existing AWS Marketplace subscriptions for Cloud Volumes ONTAP PAYGO to which you previously subscribed. You still need subscriptions through the existing AWS Marketplace pages when deploying Cloud Volumes ONTAP BYOL.

Learn more about each AWS Marketplace page.

Support for AWS GovCloud (US-East)

Cloud Manager and Cloud Volumes ONTAP are now supported in the AWS GovCloud (US-East) region.

General Availability of Cloud Volumes ONTAP in GCP (3 Sept 2019)

Cloud Volumes ONTAP is now generally available in Google Cloud Platform (GCP) when you bring your own license (BYOL). A pay-as-you-go promotion is also available. The promotion offers free licenses for an unlimited number of systems and will expire at the end of September 2019.

- Learn how to get started in GCP
- View supported configurations

Cloud Manager 3.7.2 (5 Aug 2019)

- FlexCache licenses
- Kubernetes storage classes for iSCSI
- Management of inodes
- Support for the Hong Kong region in AWS
- Support for the Australia Central regions in Azure

FlexCache licenses

Cloud Manager now generates a FlexCache license for all new Cloud Volumes ONTAP systems. The license includes a 500 GB usage limit.

To generate the license, Cloud Manager needs to access https://ipa-signer.cloudmanager.netapp.com. Make sure that this URL is accessible from your firewall.

Kubernetes storage classes for iSCSI

When you connect Cloud Volumes ONTAP to a Kubernetes cluster, Cloud Manager now creates two additional Kubernetes storage classes that you can use with iSCSI Persistent Volumes:

- **netapp-file-san**: For binding iSCSI Persistent Volumes to single-node Cloud Volumes ONTAP systems

- **netapp-file-redundant-san**: For binding iSCSI Persistent Volumes to Cloud Volumes ONTAP HA pairs

Management of inodes

Cloud Manager now monitors inode usage on a volume. When 85% of the inodes are used, Cloud Manager increases the size of the volume to increase the number of available inodes. The number of files a volume can contain is determined by how many inodes it has.

> Cloud Manager monitors inode usage only when the Capacity Management Mode is set to automatic (this is the default setting).

Support for the Hong Kong region in AWS

Cloud Manager and Cloud Volumes ONTAP are now supported in the Asia Pacific (Hong Kong) region in AWS.

Support for the Australia Central regions in Azure

Cloud Manager and Cloud Volumes ONTAP are now supported in the following Azure regions:

- Australia Central
- Australia Central 2

See the full list of supported regions.

Update on backing up and restoring (15 July 2019)

Starting with the 3.7.1 release, Cloud Manager no longer supports downloading a backup and using it to restore your Cloud Manager configuration. You need to follow these steps to restore Cloud Manager.

Cloud Manager 3.7.1 (1 July 2019)

- This release primarily includes bug fixes.
- It does include one enhancement: Cloud Manager now installs a NetApp Volume Encryption (NVE) license on each Cloud Volumes ONTAP system that is registered with NetApp Support (both new and existing systems).
  - Adding NetApp Support Site accounts to Cloud Manager
  - Registering pay-as-you-go systems
  - Setting up NetApp Volume Encryption

> Cloud Manager does not install the NVE license on systems that reside in the China region.

Cloud Manager 3.7 update (16 June 2019)

Cloud Volumes ONTAP 9.6 is now available in AWS, Azure, and in Google Cloud Platform as a private preview. To join the private preview, send a request to ng-Cloud-Volume-ONTAP-preview@netapp.com.

See what's new in Cloud Volumes ONTAP 9.6

Cloud Manager 3.7 (5 June 2019)

- Support for upcoming Cloud Volumes ONTAP 9.6 release
- NetApp Cloud Central accounts
- Backup and restore with the Cloud Backup Service

Support for upcoming Cloud Volumes ONTAP 9.6 release

Cloud Manager 3.7 includes support for the upcoming Cloud Volumes ONTAP 9.6 release. The 9.6 release includes a private preview of Cloud Volumes ONTAP in Google Cloud Platform. We'll update the release notes when 9.6 is available.

NetApp Cloud Central accounts

We've enhanced how you manage your cloud resources. Each Cloud Manager system will be associated with a *NetApp Cloud Central account*. The account enables multi-tenancy and is planned for other NetApp cloud data services in the future.

In Cloud Manager, a Cloud Central account is a container for your Cloud Manager systems and the *workspaces* in which users deploy Cloud Volumes ONTAP.

Learn how Cloud Central accounts enable multi-tenancy.

> Cloud Manager needs access to *https://cloudmanager.cloud.netapp.com* in order to connect to the Cloud Central account service. Open this URL on your firewall to ensure that Cloud Manager can contact the service.

Integrating your system with Cloud Central accounts

Some time after you upgrade to Cloud Manager 3.7, NetApp will choose specific Cloud Manager systems to integrate with Cloud Central accounts. During this process, NetApp creates an account, assigns new roles to each user, creates workspaces, and places existing working environments in those workspaces. There's no disruption to your Cloud Volumes ONTAP systems.

If you have questions, refer to this FAQ.

Backup and restore with the Cloud Backup Service

The NetApp Cloud Backup Service for Cloud Volumes ONTAP delivers fully-managed backup and restore capabilities for protection and long-term archive of your cloud data. You can integrate the Cloud Backup Service with Cloud Volumes ONTAP for AWS. Backups created by the service are stored in AWS S3 object storage.

Learn more about the Cloud Backup Service.

To get started, install and configure the backup agent and then start backup and restore operations. If you need help, we encourage you to contact us by using the chat icon in Cloud Manager.

> This manual process is no longer supported. The Backup to S3 feature was integrated into Cloud Manager in the 3.7.3 release.

Known issues

Known issues identify problems that might prevent you from using this release of the product successfully.

There are no known issues in this release of Cloud Manager.

You can find known issues for Cloud Volumes ONTAP in the Cloud Volumes ONTAP Release Notes and for ONTAP software in general in the ONTAP Release Notes.

Known limitations

Known limitations identify platforms, devices, or functions that are not supported by this release of the product, or that do not interoperate correctly with it. Review these limitations carefully.

Cloud Manager should remain running at all times

Cloud Manager is a key component in the health and billing of Cloud Volumes ONTAP. If Cloud Manager is powered down, Cloud Volumes ONTAP systems will shut down after losing communication with Cloud Manager for longer than 4 days.

Shared Linux hosts are not supported

Cloud Manager is not supported on a host that is shared with other applications. The host must be a dedicated host.

Cloud Manager does not support FlexGroup volumes

While Cloud Volumes ONTAP supports FlexGroup volumes, Cloud Manager does not. If you create a FlexGroup volume from System Manager or from the CLI, then you should set Cloud Manager's Capacity Management mode to Manual. Automatic mode might not work properly with FlexGroup volumes.

Active Directory not supported by default with new installations of Cloud Manager

Starting with version 3.4, new installations of Cloud Manager do not support using your organization's Active Directory authentication for user management. If needed, NetApp can help you set up Active Directory with Cloud Manager. Click the chat icon in the lower right of Cloud Manager to get assistance.

Limitations with the AWS GovCloud (US) region

- Cloud Manager must be deployed in the AWS GovCloud (US) region if you want to launch Cloud Volumes ONTAP instances in the AWS GovCloud (US) region.
- When deployed in the AWS GovCloud (US) region, Cloud Manager cannot discover ONTAP clusters in a NetApp Private Storage for Microsoft Azure configuration or a NetApp Private Storage for SoftLayer configuration.

Cloud Manager does not set up iSCSI volumes

When you create a volume in Cloud Manager using the Storage System View, you can choose the NFS or

CIFS protocol. You must use OnCommand System Manager to create a volume for iSCSI.

Storage Virtual Machine (SVM) limitation

Cloud Volumes ONTAP supports one data-serving SVM and one or more SVMs used for disaster recovery. The one data-serving SVM spans the entire Cloud Volumes ONTAP system (HA pair or single node).

Cloud Manager does not provide any setup or orchestration support for SVM disaster recovery. It also does not support storage-related tasks on any additional SVMs. You must use System Manager or the CLI for SVM disaster recovery.

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